

## OPEN MEETING AGENDA ITEM

Scott J. Altherr, P.E., CFM  
General Manager

**ORIGINAL**  
FLOOD CONTROL DISTRICT  
AND  
FLOODPLAIN ADMINISTRATION



SANTA CRUZ COUNTY

August 10, 2009

Mr. Ron Campana  
Mrs. Kathi Campana  
1520 Pendleton Drive  
Rio Rico, AZ 85648

Docket No.  
L-00000F-09-0190-00144

RE: TEP Vail to Valencia Transmission Line Project

Dear Mr. &amp; Mrs. Campana:

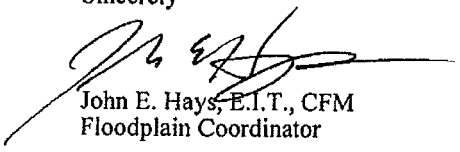
Thank you for your letter concerning the letter the Santa Cruz County Flood Control District sent to TEP regarding the aforementioned project. As you are aware, the District took the stance that of all the routes we were informed about for the upgraded power line, the route that is the most preferred by the District is the existing route, as that route is the furthest from the channel of the Santa Cruz River, and in many areas is outside the floodplains associated with the Santa Cruz River.

Your letter requested we look at the possibility of the placement of six power poles to the west of the railroad tracks so the power line may be removed from the residential area that has developed under the existing line. We have examined your request. Moving the power line the west of the rail road would place the poles for the power line within the actively flowing portion of the 100-floodplain of the Santa Cruz River, when the existing alignment is only affected by a small, ineffective flow area of the 100-floodplain of the Santa Cruz River. Based upon the cross sections for this area in the models done for the Preliminary Digital Flood Insurance Rate Maps (DFIRMs) the depth of flow in the area of the location of the power line you have proposed ranges from two to four feet deep. The flow velocities in the model range from 5.93 to 10.39 feet per second. When the product of the depth of flow times the square of the velocity of the flow reaches a value of 18 ( $dv^2 = 18$ ), the flow is considered to be potentially erosive to any structure placed within it. Based on the information from the current model, the  $dv^2$  value of the flow in the area proposed for the power line is a minimum of approximately 70. Therefore, the area is considered erosive and measures to protect against erosion, as designed by an Arizona Registered Professional Engineer, must be submitted to and approved by the Santa Cruz County Flood Control District for any structure requiring a Floodplain Use Permit in this area. In addition, towards the southern portion of the proposed alignment, where the water is the deepest, the proposed placement would place a portion of the line, and hence the poles, within the floodway of the Santa Cruz River. Please see the enclosed maps. As the floodway is generally where the majority of the mass and energy of a flood event is concentrated, the placement of structures within in it is highly discouraged.

For these reasons, the District will be sticking to its previously issued opinion that the best alternative for the Transmission Line Project currently proposed by TEP is to keep the line in its existing alignment where riparian habitat is already disturbed, and where the line is further away from the channel and floodplain of the Santa Cruz River. The District agrees that it is possible, should TEP/Unisource be willing to expend the necessary funds, to construct the power line closer to the river in such a manner as to reduce the possibility of damage. However, as A.R.S. §48-3601 exempts the line and poles from requiring a Floodplain Use Permit for construction, the District has no control in how and where the power line is constructed. Therefore, the District can only provide advice and recommendations when such advice and recommendations are sought by interested parties.

I hope I have been able to adequately address your concerns. Should there be any questions regarding this or any other floodplain concern, please feel free to contact me at (520) 375-7830 or by email at [jhays@co.santa-cruz.az.us](mailto:jhays@co.santa-cruz.az.us).

Sincerely

  
John E. Hays, E.I.T., CFM  
Floodplain Coordinator

C: Scott Altherr, P.E., General Manager  
Jesus Valdez, P.E., Deputy Public Works Director

Arizona Corporation Commission

DOCKETED

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DOCKETED BY AZ CORP COMMISSION  
DOCKET CONTROL

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### Disclaimer

This map is a product of the Santa Cruz County GIS and has been created by the Santa Cruz County Flood Control District with the intention of demonstrating the locations of

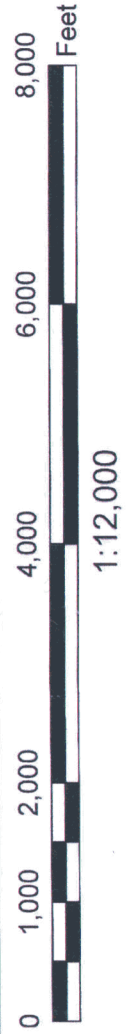
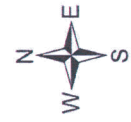
the new Preliminary Floodplains for all of Santa Cruz County, AZ.

This mapping only represents the Preliminary Special Flood Hazard Areas of the Santa Cruz County DFIRM and Map Modernization Project, and is for informational and regulatory purposes only at this time.

### Legend

- Town of Patagonia
- City of Nogales
- Roads
- Preliminary Base Flood Elevations (NAVD 1988)
- Cross Sections
- FLOODWAY
- Zone AE
- Zone AO (Depth 1 ft)
- Zone AO (Depth 2 ft)
- Zone A
- Zone X
- Shaded Zone X
- Zone D

## Preliminary Floodplain Maps





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## **Preliminary Floodplain Maps**

